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Subject: Environmental Defense comments on 2,5-Furandione, 3-(dodecenyl)dihydro-, Reaction Products with Propylene Oxide (CAS# 68411-58-5)

(Submitted via Internet 10/7/03 to oppt.ncic@epa.gov, hpv.chemrtk@epa.gov, boswell.karen@epa.gov, chem.rtk@epa.gov, MTC@mchsi.com, and sarah_loftus@americanchemistry.com)

Environmental Defense appreciates this opportunity to submit comments on the Robust Summary/Test Plan for 2,5-Furandione, 3-(dodecenyl)dihydro-, Reaction Products with Propylene Oxide.

The American Chemistry Council Petroleum Additives Panel Health, Environmental, and Regulatory Task Group (HERTCG) has submitted a Robust Summary/Test Plan describing available data and testing needs for 2,5-furandione, 3-(dodecenyl)dihydro-, reaction products with propylene oxide (CAS No. 68411-58-5). These reaction products vary only in the number of propylene oxide units at each of the two esteric linkages in the final products. The resulting mixture is stated to have an average molecular weight of 458.64. We agree that the final product mixture is sufficiently consistent in composition that it is appropriately considered a single chemical for purposes of review under the US HPV Challenge program.

The Test Plan submitted for 2,5-furandione, 3-(dodecenyl)dihydro-, reaction products with propylene oxide provides a good description of uses, transport and possible sources of human and environmental releases and exposure for this chemical. It is almost exclusively used as an additive in lubricating oils used in all types of engines as a rust inhibitor. It is usually present at a concentration less than one percent in the lubricant; but given the overall level of lubricant use and the intimate contact that mechanics, some other workers and some consumers may have with such lubricants, this use poses significant potential for human exposure. Also, the substantial loss of lubricants from engines and their sometimes improper disposal indicates their potential for release into the environment is significant.

Given the considerable exposure potential, it is surprising that 2,5-furandione, 3-(dodecenyl)dihydro-, reaction products with propylene oxide has to date been subject to so little toxicological evaluation and characterization. Our review of the Test Plan indicates that, of the 13 SIDS elements listed for environmental fate and toxicity, only two -- biodegradation and acute mammalian toxicity -- have been previously addressed. The Robust Summary indicates the acute toxicity study, which suggests relatively low acute toxicity, was conducted in 1962 and used only two animals for most doses. The biodegradation study indicates that 2,5-furandione, 3-(dodecenyl)dihydro-, reaction products with propylene oxide is slowly biodegraded (9% in 28 days).

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The Test Plan proposes that each of the SIDS elements not currently addressed by adequate studies be addressed in new studies conducted under appropriate OECD guidelines. We strongly support the proposed studies for this widely dispersed chemical, the results of which should finally provide at least a basic toxicological characterization.

Minor Comment:

Tables 1 and 2 referred to in the text are actually labeled Figures 1 and 2.

Thank you for this opportunity to comment.

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